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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/608,080

06/30/2003

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EXAMINER

JONES, HUGH M

ART UNIT

PAPER NUMBER

2128

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/608,080	Applicant(s) NOMA ET AL.	
	Examiner Hugh Jones	Art Unit 2128	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-32 is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12103 12006 22406</u> | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. Claims 1-32 of U. S. Application 10/608,080, filed 6/30/2003, are pending.

**Claim Rejections - 35 USC § 103**

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. ("S") in view of Weber et al. (Search Report – US Patent 6,113,643 – "W").
5. Singh et al. disclose parametric design of vehicles including structural, interior and exterior aspects of the design.
6. Singh et al. does not expressly disclose ergonomic design taking into account occupants.
7. Weber et al. discloses such a teaching (entire patent).

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8. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Singh et al. teaching with the Weber et al. teaching for the reasons given by Weber (col. 1, lines 11-21).

9. Singh et al. in view of Weber et al. disclose :

1. A planning support program for supporting planning of a vehicle, said program making a computer execute:

an exterior model building step of building an exterior model that expresses an outer appearance of the vehicle by reading out an exterior parameter group associated with an exterior shape of a vehicle, and changing exterior parameters included in the readout exterior parameter group (S: fig. 1-3 and corresponding text; W: fig. 1-3 and corresponding text, fig. 15);

an interior model building step of building an interior model that expresses interior comfort of passengers by inputting passenger parameters associated with sitting states of the passengers in the vehicle (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text); and

a display step of superimposing the exterior model built in the exterior model building step, and the interior model built in the interior model building step (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

2. The program according to claim 1, wherein said planning support program makes the computer further execute:

a structure model building step of building a structure model by reading out a structure parameter group associated with a structure of a framework of the vehicle, and adjusting structure parameters included in the readout structure parameter group (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text), and

the display step includes a step of superimposing the structure model built in the structure model building step on the exterior model and the interior model (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

3. The program according to claim 1, wherein the exterior model building step includes a step of changing the exterior parameters on the basis of vehicle specification values associated with exterior dimensions of the vehicle, and the interior model built in the interior model building step is not influenced by the vehicle specification values (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text, fig. 15; col. 8, lines 62-67).

4. The program according to claim 2, wherein a shape of the framework which forms the structure model changes in correspondence with a shape of the exterior model (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text, fig. 15).

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5. The program according to claim 1, wherein the display step includes a step of transparently displaying the exterior model to identifiably display whether or not the exterior model and the interior model interfere with each other (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

6. The program according to claim 2, wherein the display step includes a step of transparently displaying a vehicle shape as a combination of the exterior model and the structure model to identifiably display whether or not the vehicle shape and the interior model interfere with each other (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

7. The program according to claim 1, wherein the interior model building step includes a step of building the interior model by reading out and deforming human type models that express the passengers and seat models that express seats in accordance with the passenger parameters (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

8. The program according to claim 7, wherein the interior building step includes a step of building the interior model by inputting the number of seats as the passenger parameter, and combining the human type models and the seat models corresponding to the number of seats (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

9. The program according to claim 7, wherein the interior building step includes a step of building the interior model using sitting positions of the passengers for respective seats input as the passenger parameters (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

10. The program according to claim 7, wherein the interior building step includes a step of building the interior model using sitting postures of the passengers input as the passenger parameters (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

11. The program according to claim 7, wherein the human type model set at a driver's seat of the vehicle includes eye point information and visibility assurance reference range information indicating a reference range to be assured as visibility from the eye point (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text, 9, fig. 15).

12. The program according to claim 11, wherein the interior model has position information of a predetermined portion of the vehicle, which is specified by the reference range (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

13. The program according to claim 12, wherein the predetermined portion of the vehicle includes at least one of a front header, rear header, pillar, and windshield lower end portion (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

14. The program according to claim 7, wherein the interior model has position information of a predetermined portion of the vehicle associated with oppressive feelings experienced by the passengers, and the position information is specified by positions of the human type models (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text, 9, fig. 15).

15. The program according to claim 14, wherein the predetermined portion of the vehicle includes at least one of a front header, rear header, pillar, and windshield lower end portion (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

16. The program according to claim 2, wherein the structure parameters include information associated with a sectional shape of the framework of the vehicle (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text, fig. 15).

17. The program according to claim 2, wherein the structure parameters include information associated with a mechanical strength of the framework (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

18. The program according to claim 2, wherein the structure parameters include information associated with a weight of the framework (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

19. The program according to claim 2, wherein the structure parameters include information associated with a material of the framework (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

20. The program according to claim 2, wherein the structure parameters include information associated with a thickness of a steel plate used in the framework (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

21. The program according to claim 2, wherein the framework includes at least one of a front pillar, center pillar, rear pillar, side roof rail, front header, and rear header (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

22. The program according to claim 2, wherein the structure model building step includes a step of building the structure model by selectively reading out one of a plurality of structure parameter groups prepared for respective vehicle types (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

23. The program according to claim 2, wherein a shape of the framework which forms the structure model changes in correspondence with a shape of the exterior model (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text, fig. 15).

24. A planning support method for supporting planning of a vehicle using a computer, comprising:

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an exterior model building step of building an exterior model that expresses an outer appearance of the vehicle by reading out an exterior parameter group which is prepared in a database and associated with an exterior shape of a vehicle, and changing exterior parameters included in the readout exterior parameter group (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text, fig. 15);

an interior model building step of building an interior model that expresses interior comfort of passengers by inputting passenger parameters associated with sitting states of the passengers in the vehicle (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text, 9, fig. 15); and

a display step of superimposing, on a display, the exterior model built in the exterior model building step, and the interior model built in the interior model building step (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

25. The method according to claim 24, wherein the interior model building step includes a step of building the interior model by reading out and deforming human type models that express the passengers and seat models that express seats in accordance with the passenger parameters (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

26. The method according to claim 24, further comprising:

a structure model building step of building a structure model by reading out a structure parameter group associated with a structure of a framework of the vehicle, and adjusting structure parameters included in the readout structure parameter group (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text), and

wherein the display step includes a step of superimposing the structure model built in the structure model building step on the exterior model and the interior model (S: FIG. 1-3 AND CORRESPONDING TEXT; W: fig. 1-3 and corresponding text).

### **Allowable Subject Matter**

10. Claims 27-32 are allowed over the prior art of record. The claims invoke In re Donaldson and are deemed novel and nonobvious over the prior art of record. Specifically, the novel and nonobvious disclosure corresponding to the allowable limitations are found in figures 2, 11-14 and 40.

11. Any inquiry concerning this communication or earlier communications from the examiner should be:

directed to: Dr. Hugh Jones telephone number (571) 272-3781,  
Monday-Thursday 0830 to 0700 ET,

**or**

the examiner's supervisor, Kamini Shah, telephone number (571) 272-2279.  
Any inquiry of a general nature or relating to the status of this application should  
be directed to the Group receptionist, telephone number (703) 305-3900.

**mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 308-9051 (for formal communications intended for entry)  
**or** (703) 308-1396 (for informal or draft communications, please label  
*PROPOSED* or *DRAFT*).

Dr. Hugh Jones  
Primary Patent Examiner  
September 28, 2006

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